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Effectiveness of Convalescent Plasma Therapy to Fight against COVID-19

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Abstract

To study the effectiveness of Convalescent Plasma Therapy (CPT) for combating COVID-19 diseases we have carried out a rapid of case series studies. Various academic publication related to convalescent plasma therapy for COVID-19 are studied, number of participants their result after convalescent plasma therapy and amount of antibodies level has been studied. How transfusion of convalescent plasma therapy helps to cure COVID-19 patients studies is various series as A,B,C,D,E and F. Most of the studies show convalescent plasma therapy could be one of the approach to treat COVID-19 patients, until the vaccine and other better intervention come into action.

Keywords: Corona virus; COVID-19; Combating COVID-19 convalescent plasma therapy; SARS-CoV-2

Introduction

In December 2019, severe acute respiratory syndrome-coronavirus-2, a novel corona virus, initiated an outbreak of pneumonia from Wuhan in China, which rapidly spread worldwide. The clinical characteristics of the disease range from asymptomatic cases or mild symptoms, which include nonspecific symptoms such as fever, cough, sore throat, headache, and nasal congestion to severe cases such as pneumonia, respiratory failure demanding mechanical ventilation to multi-organ failure, sepsis, and death. As the transmission rate is quite alarming, we require an effective therapeutic strategy to treat symptomatic patients and adopt the preventive measures in order to contain the infection and prevent community transmission. Corona virus disease 2019 (COVID-19) pandemic is a public health emergency of international concern. Global institutions and companies have begun to develop vaccines for the prevention of COVID-19 however it has not been successfully implement in practice [1]. Some countries has started plasma therapy to combat COVID-19.

Plasma therapy is the method of treatment under which plasma, found in the blood of a person who had recovered earlier from the same disease, is transfused into the blood of the new patient. It is not a universally accepted method of treating COVID-19 patients and is being used as a test case in many countries. Here, we review the current scenario of Convalescent Plasma Therapy (CPT) used globally after the outbreak of the virus in 2019. This qualitative analysis will discuss how plasma therapy helping to combat for COVID-19.

Description

This research is a qualitative analysis where systematic literature review of records related to effectiveness of Convalescent Plasma Therapy (CPT) for combating COVID-19 diseases is studied. Inclusion and exclusion criteria are taken, based on the relevant of topic. Pubmed is the key source for database however googlescolar and other scholar acedamic sites were used for data extraction and synthesis [2].

Out of fifty plus related articles about plasma therapy and its effectiveness to fight with COVID-19, ten specific articles were included for inclusion criteria. Among ten articles also only four more specific studies are selected for qualitative analysis [3]. Extracted data and statistics are used for interpretation and understanding effectiveness of convalescent plasma therapy to fight against COVID-19. Comparative studies of antibodies before and after the plasma transfusion are the key guideline that gives the effectiveness of the plasma therapy to combat COVID-19.

Discussion

This rapid case series studies shows all participants A to F (six COVID-19) patients who recovered from virus and discharged from hospital was under plasma transfusion [4]. This literature review study highlights convalescent plasma therapy as an effective and specific treatment for COVID-19. In this research Series of cases has been studied which was observation report of clinician. One common parameter amongst all research article is plasma therapy an intervention measures to neutralize COVID-19 on different patient [5].

In research different series of studies has shown how plasma therapy play role in order to treat COVID-19. Most series of data suggest it is efficient to use plasma of the patient who is previously infected with COVID-19 and recover, however it has not clearly seen that how accurate and what amount of antibodies is administrated. In all research it was not discuss how many antibodies were produced in the patient bodies which is the limitation of the studies. The key strength of this research is data, x-ray photos and graph (which are fully referenced) which suggest the incident of patient condition before and after COVID-19.

Conclusion

Convalescent Plasma therapy for combating COVID-19 diseases could be an effective measure, as many of the patient to whom Convalescent plasma was injected recovered. However there is limitation on research as study is designed on small number of population. In addition number of antibodies admistreted to individual patient was not same (standard). Further research and investigation is necessary to conclude the accuracy and success rate of plasma therapy.

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